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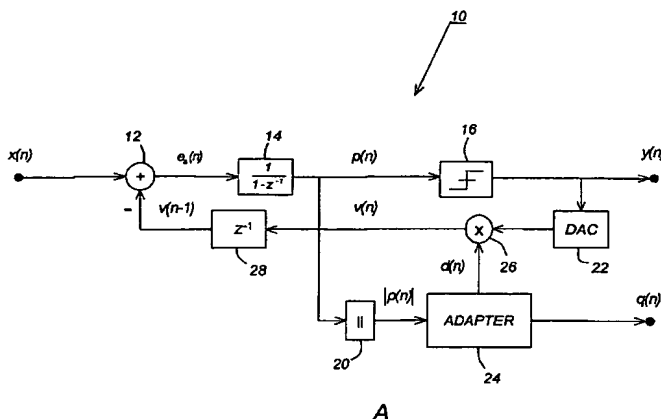
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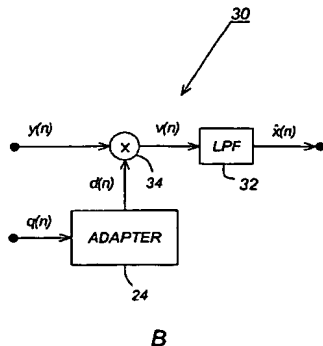
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(75) Inventors/Applicants (for US only): **ALDAJANI, Mansour, A.** [SA/SA]; P.O. Box 1237, King Fahd University, Dhahran 31261 (SA). **SAYED, Ali, H.** [BR/US]; Professor & Vice Chairman, Electrical Engineering Department, University of California, Los Angeles, CA 90095 (US).
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[Continued on next page]

(54) Title: ADAPTIVE MULTI-BIT DELTA AND SIGMA-DELTA MODULATION



(57) Abstract: An adaptive multi-bit delta and sigma-delta modulation (10) and demodulation technique, wherein a one-bit modulator generates a binary output signal from an analog input signal and a multi-bit adapter (24) for generating a scaling signal for scaling a step-size of the sigma-delta modulator.



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MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

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A. CLASSIFICATION OF SUBJECT MATTER																						
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According to International Patent Classification (IPC) or to both national classification and IPC																						
B. FIELDS SEARCHED																						
Minimum documentation searched (classification system followed by classification symbols) U.S. : 341/51, 76, 143; 375/242-254																						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched NONE																						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) NONE																						
C. DOCUMENTS CONSIDERED TO BE RELEVANT																						
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.																				
A	US 6,339,621 B! (COJOCARU ET AL) 15 JANUARY 2002 (15/01/02), SEE THE ABSTRACT.	1-14																				
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.																						
* Special categories of cited documents: <table border="0"> <tr> <td>"A"</td> <td>document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T"</td> <td>later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E"</td> <td>earlier application or patent published on or after the international filing date</td> <td>"X"</td> <td>document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L"</td> <td>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y"</td> <td>document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O"</td> <td>document referring to an oral disclosure, use, exhibition or other means</td> <td>"&"</td> <td>document member of the same patent family</td> </tr> <tr> <td>"P"</td> <td>document published prior to the international filing date but later than the priority date claimed</td> <td></td> <td></td> </tr> </table>			"A"	document defining the general state of the art which is not considered to be of particular relevance	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E"	earlier application or patent published on or after the international filing date	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O"	document referring to an oral disclosure, use, exhibition or other means	"&"	document member of the same patent family	"P"	document published prior to the international filing date but later than the priority date claimed		
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